the buccal parts of the female of *Sepia tuberculata* of the Cape, because it presented the following peculiarity: the male had fixed the whole mass of the spermatophores on the external surface of the buccal membrane—a thing which I have never seen in any other *Sepia*, although I have sometimes observed that a few spermatophores had separated from the others and fixed on the external surface, nay, even near the base of the arms. How far is this arrangement entirely accidental in *S. tuberculata*? This I cannot decide, as I have examined only one individual; at any rate the observation in question is not without interest relatively to *Hemisepius*, for in that species the spermatophores are fixed on the part of the lip which usually fulfils this office in the Sepians and the Loliginians; but some are found, nevertheless, on the margin of the lip, and even on the external surface. The preceding will suffice, I think, to show that in the actual state of our knowledge our example of *Hemisepius*, although small, ought not to be regarded as a young and undeveloped individual, but as an adult.

To facilitate the comparison of the characters of *Hemisepius* and the Sepias the two plates which accompany this memoir contain many details hitherto unknown. It will be seen, for example, that in the species which seems to me to be the *Sepia tuberculata*, Lamk., there are eight rows of suckers at the extremity of the eight arms, instead of four or two,—that a new species from Japan (*S. Andreana*) has the arms of the second pair elongated in an extraordinary manner, doubtless to fulfil some particular function,—and that there are even some Sepias which have the lobes of their buccal membrane provided with suckers, like the greater part of the Loliginians, for example the *Sepia aculeata*, v. Hass.—*Comptes Rendus*, October 4, 1875, p. 567.

On the Ichthyological Fauna of the Island of St. Paul.

By M. H. E. Sauvage.

The study of the distribution of living creatures on the surface of the globe has acquired great importance of late years, and more than ever we are now-a-days interested in botanical and zoological geography. It is only by the knowledge of the distribution of organisms that we shall succeed in understanding how the forms are grouped which sometimes give so peculiar a physiognomy to a country—that we shall arrive, no doubt, at a knowledge of the migrations of these creatures, and how they have radiated from their centres of origin.

As may be easily understood, isolated islands possess the greatest interest from this point of view. Their flora and fauna have, in fact, remained what they were from the first; and the variations, if variations have taken place, must have been confined within narrow limits, not exceeding what they may be in the type. Undoubtedly the study of the terrestrial and fluviatile animals is most instructive from this point of view; but that of the marine animals nevertheless possesses great interest.

The island of St. Paul, lost in the Indian Ocean, must possess

special interest; and therefore we have carefully investigated the few representatives of the ichthyological fauna of that island, for which science has to thank the researches of the expeditions of the 'Novara' and of the commission of the transit of Venus. Although it is only known by a very small number of species (ten), this fauna has led us to some results to which we beg the Academy to attend for a few moments *.

In consequence of the geological structure of the island, the species found at St. Paul have a very limited geographical extension; but the study of the species is for this reason only the more instructive.

Of the species collected at St. Paul, only three have been met with in other regions; and two others of them have been captured in the open sea.

Acanthias vulgaris is a shark of very wide geographical distribution, the species having been indicated in the Channel, the Atlantic Ocean, and the Mediterranean, at the Mauritius, and at the Cape. The types of *Latris hecateia* and *Nemadactylus concinnus* were found at Van Diemen's Land by Richardson. The other species belong to the genera *Serranus*, *Bovichthys*, *Sebastes*, *Mendosoma*, *Labrichthys*, and *Motella*.

The *Serranus*, named by Kner *S. novemcinctus*, belongs to the group of *Serranus scriba*, which must have passed into the Mediterranean during the Tertiary epoch, when that sea communicated with the Red Sea.

At the same epoch the type of the *Sebastes* of the Indian Ocean, the European representative of which is *Sebastes* (*Sebastichthys*) *dactylopterus*, emigrated towards the Mediterranean. It is to this group of *Sebastichthys* that the *Sebastes* of St. Paul, which we regard as a new species, belongs. Allied to the *Sebastes percoides* of New Zealand, Van Diemen's Land, and South Australia, the *Sebastes Mouchezi* differs therefrom by the narrower space between the eyes, the longer muzzle, the narrower palatine band, the smaller backward prolongation of the maxillary, the black tongue, the shorter dorsal and anal spines, and the uniform tint of the body.

It is with the species of the south of Australia (that is to say, with those that we find almost under the same parallel) that the fishes of the island of St. Paul present the most relationships. We have mentioned *Latris hecateia* and *Nemadactylus concinnus*, and described *Sebastes Mouchezi*, allied to *S. percoides*; we can further cite two species of *Labrichthys* representing South-Australian species.

One of these, *Labrichthys Lantzii*, n. sp., belongs to the group which includes species of which the cheeks and the base of the dorsals are garnished with several rows of scales. Our species differs from those resembling it by the presence of a posterior canine tooth, several series of teeth in the jaws; the body of a light mahogany colour, tinged with violet on each scale, a violet line uniting the

* The Museum of Natural History has received the fishes of the island of St. Paul, through the care of MM. de l'Isle and Velain.

eyes by passing below the mouth, and a line of the same colour running from the mouth to the thorax; the dorsals of the same colour as the body, but tinged with brown and red, and adorned with three violet bands; a black spot between the first two spines of the dorsal; anal yellowish, violet at the extremity.

The other species, *Labrichthys isleanus*, n. sp., belongs to a group the species of which have only two series of scales on the cheek. As in the preceding species, we observe a posterior canine tooth and small successional teeth in the jaws. The body, of a red-lead colour, orange on the belly, is traversed by longitudinal lines of a darker tint. A black spot is observed between the first two spines of the dorsal, another spot of the same colour between the penultimate pair of rays of the soft fin, and a third spot at the posterior and superior part of the pedicle of the caudal.

The genus *Mendosoma* was only represented by a single Chilian species (*Mendosoma lineatum*) when Kner met with the genus at St. Paul (*M. elongatum*).

As to *Bovichthys psychrolutes*, Günth., the species belongs to a group bearing the seal of the genera characteristic of cold regions. This is also the case with *Motella capensis*, Kaup, a form essentially characteristic of the colder parts of the southern Atlantic hemisphere. —*Comptes Rendus*, November 22, 1875, p. 987.

On a gigantic Stridulating Spider. By James Wood-Mason.

Mr. Wood-Mason exhibited specimens of a gigantic spider belonging to the genus *Mygale*, which had the power of emitting a loud stridulating sound, and stated that that interesting discovery had been made by Mr. S. E. Peal of Sibságar, Assam, who, at his request, had drawn up a most graphic account of his observations on the living animal. Mr. Mason had himself undertaken to ascertain the position and to describe the structure of the sound-producing apparatus, which he had found to consist of a *comb*, composed of a number of highly elastic and indurated chitinous rods, situated on the inner face of the so-called *maxillæ*, and of a *scraper*, formed by an irregular row of sharp spines on the outer surface of the *chelicerœ*. This apparatus was equally well developed in both sexes, as in most Coleopterous insects, and was not confined to the males as in the Orthoptera, Homoptera, and the stridulating spiders (*Theridion*) observed by Westring, in all of which the exclusive purpose of the sounds emitted seemed to be to charm or call the opposite sex.

In conclusion, Mr. Mason discussed the probable purposes of the sounds emitted, and pointed out how the *Mygale stridulans*, as he proposed to call the species observed by Mr. Peal, differed from its nearest ally *M. javanensis*, in which no stridulating organs were developed. A full account will shortly be published in the Society's Journal.—*Proc. As. Soc. Bengal*, November 1875.